



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,194	03/10/2004	Keiichi Satoh	250084US2	2456
22850 7590 04/02/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER YAN, REN LUO	
			ART UNIT	PAPER NUMBER
			2854	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/02/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/02/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

## Office Action Summary

Application No.

10/796,194

Applicant(s)

SATOH ET AL.

Examiner

Ren L. Yan

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 10-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quilliam (5,441,247) in view of Ohkawa(6,098,536).

The patent to Quilliam teaches the structure of a bulk paper feeding device with an intermediate conveyor as claimed including: a carrier 10 capable of carrying a large quantity of paper P; a paper feeding mechanism 24 for picking up and feeding one sheet at a time of the paper from the carrier; and an intermediate conveyor 40 for transporting a sheet of paper fed from the feeding mechanism to a main paper feeding table of a paper feeder on the body of an image forming device or to the vicinity of a paper feeding port 96, 98 that faces main paper feeding means of the paper feeder, said intermediate conveyor 40 comprising paper transport means 78 and 84 for transporting paper that has been fed from the paper feeding mechanism, disposed in a plurality at prescribed intervals from upstream to downstream along the intermediate transport path thereof; and paper detecting means 52 and 94 for detecting at least one edge from among the leading and trailing edges of the paper being transported, disposed in a plurality at intervals from upstream to downstream along the intermediate transport path, wherein, from upstream to downstream, at least one detecting means 52 located before transport means 84 and one detecting means 94 located after transport means 84 and before transport

Art Unit: 2854

means 78. See Figs. 1-6 in Quilliam for details. However, Quilliam does not teach or show a paper detecting means located after the second transport means 78. Ohkawa teaches in a stencil printer including a bulk paper feeding device comprises a carrier 35 capable of carrying a large quantity of paper, a paper feeding mechanism 30 for picking up and feeding one sheet at a time of the paper from the carrier, an intermediate conveyor for transporting a sheet of paper fed from the feeding mechanism to a main paper feeding table 20 of a paper feeder on a body of an image forming device or to the vicinity of a paper feeding port that faces main paper feeding means 20 of a paper feeder. The intermediate conveyor includes two paper transport means 32 and 33b and a paper detecting means 108 for detecting the leading edge of the paper being transported located after the second paper transport means 33b and before the main paper feeding means 20 so that the controller 110 drives the stepping motor 102 to cause the leading edge of the paper sheet 3 arriving at the same time as the arrival of the sheet clasper 21 of the main paper feeding means 20 at its clamping position. See Fig. 16 and the paragraph bridging columns 12 and 13 in Ohkawa for example. In view of the teaching of Ohkawa, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a further paper detecting means located after the second paper transport means 78 in the paper feeding device of Quilliam so as to ensure proper control of the paper transport timing by the main paper feeding means downstream of the intermediate conveyor.

Claims 2, 3, 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quilliam in view of Ohkawa as applied to claim 1 above and further in view of Takahashi et al(6,205,918).

With respect to claims 2 and 6, the combination of Quilliam and Ohkawa teaches all that is claimed except for the use of a control means for controlling the paper transport drive means in response to signals from the paper size detecting means identifying the size of the paper. Takahashi et al teach in a stencil printer the conventional use of a control means 34 for controlling the various sections of the printer including the paper conveying times, peripheral speed of the print drum, etc. based on the signal from the paper size sensor 56 identifying the size of the paper being printed. See Fig. 1 and column 10, lines 45-65 in Takahashi et al for example. It would have been obvious to those having ordinary skill in the art at the time of invention to provide the paper feeding device of Quilliam, as modified by Ohkawa with the paper size sensing means and control means appropriately disposed as taught by Takahashi et al in order to ensure proper paper transport operation based upon the size of the paper used.

With respect to claim 3, the combination of Quilliam and the applied prior art teaches structure of the paper feeding device wherein the paper in the initialized state is positioned on the paper transport means 78 disposed on the furthest downstream side of the intermediate transport path, and the leading edge of the paper is set in a position in which the paper can be fed by the main paper feeding means 98.

With respect to claim 7, Ohkawa teaches in a rotary stencil printer the conventional use of a stepping motor 102 to drive the intermediate conveyor roller 33b. See Figs. 7 and 9 in Ohkawa for example. It would have been obvious to those having ordinary skill in the art at the time of invention to provide the drive means 90 of Quilliam, as modified by Takahashi et al with a stepping motor to achieve precise control of the sheet transport speed.

Regarding claim 9, the combination of Quilliam and Ohkawa teaches that the bulk paper feeding device is operatively linked to a sheet staging assembly so as to replace a conventional sheet tray, or the like, in an image printing device to provide an ultra high sheet capacity accessory for imaging devices. See column 1, lines 6-10. Quilliam also shows the feed roller 98 of an end device(imaging device) in cooperation with the paper transport means 78 for feeding the paper to the printing section of the imaging device. However, Quilliam does not show the type or the structure of such an imaging device. Takahashi et al show a rotary stencil printer with a conventional sheet tray 21 for feeding the paper to the printing drum 1A. The printing drum of Takahashi et al has a surface for winding a thermal stencil master produced by engraving, and whereby paper that has been fed from the sheet conveyor 29 and 30 is pressed against the thermal stencil master on the printing drum and printed by the feeding of ink from the interior of the printing drum. See Fig. 1 Takahashi et al for example. It would have been obvious to one of ordinary skill in the art at the time of invention to provide the imaging device of Quilliam, as modified by Ohkawa with a rotary stencil printer as taught by Takahashi et al because the rotary stencil printer is known for its capability of producing massive amount of copies with only one stencil master and thus is cost effective.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quilliam in view of Ohkawa and Takahashi et al as applied to claim 2 above, and further in view of Carolan(5,543,894).

Quilliam in combination with Ohkawa and Takahashi et al teach all that is claims except for the use of a transport speed detecting means for detecting the paper transport speed, wherein the control means adds a signal from the transport speed detecting means and controls the paper

Art Unit: 2854

transport speed of each paper transport means in a stepless manner and in real time. Carolan teaches in an imaging apparatus the conventional use of paper transport speed sensors for detecting the paper transport speed of various transports and a control for synchronizing the speed of the various transports in a stepless manner and in real time to avoid mismatch of the transport speed of various transports. See Fig. 2 and column 1, lines 44-56 in Carolan for example. It would have been obvious to those having ordinary skill in the art at the time of invention to provide the paper feeding device of Quilliam, as modified by Ohkawa and Takahashi et al with the paper transport speed sensing and controlling structure appropriately disposed as taught by Carolan in order to ensure proper paper feeding through various sections of the paper feeding apparatus.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement indicating allowable subject matter:

Regarding claim 4, the prior art of record fails to teach the combination structure of a bulk paper feeding device as claimed including particularly timekeeping means for measuring the time between the paper detecting means when the trailing edge of the paper moves at the time that transport of paper on the plurality of paper detecting means is started in accordance with the start of paper feed by the main paper feeding means, wherein the control means adds a signal from the timekeeping means and controls the paper transport speed of each paper transport means.

Art Unit: 2854

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

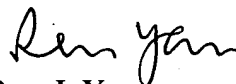
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2854

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ren L Yan  
Primary Examiner  
Art Unit 2854

Ren Yan  
October 12, 2006